

What is claimed is:

1. A sheet feeding device for an image forming apparatus, comprising:

a plurality of separating members each having a particular coefficient of friction with respect to a sheet for separating sheets one by one; and

an automatic separating member switching mechanism for automatically selecting one of said plurality of separating members.

2. A device as claimed in claim 1, further comprising an automatic angle switching mechanism for automatically changing an angle of said plurality of separating members.

3. A device as claimed in claim 1, wherein said automatic separating member switching mechanism includes drive means for driving said automatic separating member switching means, said device further comprising control means for so controlling said drive means as to automatically select a preselected one of said plurality of separating members matching with a kind of the sheets.

4. A device as claimed in claim 3, further comprising overlap feed sensing means for sensing an overlap feed of the sheets, said control means controlling said drive means such that when said overlap feed sensing means senses the overlap feed more than a preselected number of times, one separating member in use is automatically replaced with another separating member.

5. A device as claimed in claim 3, further comprising a separation pressure canceling mechanism including separation

pressure cancellation drive means for automatically canceling a separation pressure acting on the sheets.

6. A device as claimed in claim 3, further comprising display means for displaying, when one separating member in use is replaced with another separating member which is a last spare separating member, a message showing that no spare separating members are available.

7. A device as claimed in claim 3, further comprising:

a separation pressure adjusting mechanism including separation pressure variation drive means; and

separation pressure control means for automatically selecting a preselected separation pressure matching with one separating member automatically selected, and so controlling said separation pressure variation drive means as to set up said preselected separation pressure.

8. A device as claimed in claim 3, further comprising sheet feed condition control means for automatically selecting and setting up preselected sheet feed conditions, including a feed pressure and an amount of feed, matching with one separating member automatically selected.

9. A device as claimed in claim 3, further comprising kind-of-sheet sensing means for sensing a kind of the sheets.

10. A device as claimed in claim 3, further comprising kind-of-sheet setting means for allowing an operator to set a kind of the sheets.

11. A device as claimed in claim 3, wherein the kind of sheets

includes a sheet size.

12. A device as claimed in claim 11, further comprising sheet size sensing means for sensing a size of the sheets.

13. A device as claimed in claim 11, further comprising sheet size setting means for allowing an operator to set a size of the sheets.

14. A device as claimed in claim 1, wherein said automatic separating member switching mechanism includes drive means for driving said automatic separating member switching mechanism, said device further comprising control means for so controlling said drive means as to automatically select a preselected one of said plurality of separating members in accordance with environmental conditions including temperature and humidity.

15. A sheet feeding device for an image forming apparatus, comprising:

a plurality of separating members for separating sheets one by one; and

an automatic separation angle switching mechanism for automatically switching an angle of said plurality of separating members.

16. A device as claimed in claim 15, wherein said automatic separation angle switching mechanism includes drive means for driving said automatic separation angle switching mechanism, said device further comprising control means for automatically selecting a preselected angle of said plurality of separating members matching

with a kind of the sheets.

17. A device as claimed in claim 16, further comprising overlap feed sensing means for sensing an overlap feed of the sheets, said control means so controlling, when said overlap feed sensing means senses the overlap more than a preselected number of times, said drive means as to automatically select a preselected angle of said plurality of separating members matching with a frequency of overlap feed

18. A device as claimed in claim 16, further comprising:

a separation pressure adjusting mechanism including separation pressure variation drive means; and

separation pressure control means for automatically selecting a preselected separation pressure matching with an angle of said plurality of separating members automatically selected, and so controlling said separation pressure variation drive means as to set up said preselected separation pressure.

19. A device as claimed in claim 16, further comprising sheet feed condition control means for automatically selecting and setting up preselected sheet feed conditions, including a feed pressure and an amount of feed, matching with an angle of one of said plurality of separating members automatically selected.

20. A device as claimed in claim 15, wherein said automatic angle switching mechanism includes drive means for driving said automatic angle switching mechanism, said device further comprising control means for so controlling said drive means as to automatically select a preselected angle of one of said plurality of separating

members automatically selected in accordance with environmental conditions including temperature and humidity.

21. A sheet feeding device for an image forming apparatus, comprising:

a plurality of separating members having a same coefficient of friction with respect to sheets for separating said sheets one by one;

an automatic separating member switching mechanism including drive means for automatically replacing said plurality of separating members;

counting means for counting the sheets fed; and

control means for so controlling, when said counting means counts a preselected number of sheets, said drive means as to automatically replace one separating member in use with another separating member.

22. A device as claimed in claim 21, further comprising display means for displaying, when one separating member in operation is replaced with another separating member which is a last spare separating member, a message showing that no spare separating members are available.